investigation the author succeeded in growing the fungus in pure cultures, and thus obtained sporangia belonging to the genus Phytophthora. By means of zoospores, not only lilacs but also a number of other plants were infected, showing close relationship of the fungus to *Phytophthora omnivora* DeBary. The relationship is discussed at length, and although the author is somewhat doubtful in his conclusion, he is inclined to regard the fungus as a species (*P. Syringae*) differing slightly in morphological and biological characteristics from DeBary's *P. omnivora*.—H. Hasselbring.

**The problems of life.**—In 1900 Giglio-Tos published the first part of his work under this title.[5] The general thesis of the book is that vital phenomena are all referable to relatively simple fundamental causes, and in the first part there is an attempt to set forth a logical and consistent hypothesis of the organization of protoplasm and its fundamental functions. The second part appeared in 1903,[6] and applied the same method to the phenomena of ontogeny. In 1905 the third part was published,[7] extending the author's hypothesis to the phenomena of fertilization and heredity. Now the fourth and last part has appeared,[8] and reduces to relative simplicity the important problems of variation and the origin of species. The theory of the whole book begins with an assumption regarding the molecular structure of protoplasm and the nature of assimilation, and applies this assumption by a logical series of deductions to the most fundamental problems of biology. The logic may be good, but it cannot transform the assumption, interesting as it may be, into a fact. Even a fact is influential only in its own immediate neighborhood, and the author has traveled far beyond the region where an initial fact, much less an assumption, can be serviceable.—J. M. C.

**A new flora of California.**—Two parts of *A flora of California* by Jepson[9] have been published recently. Part I contains the families Pinaceae to Taxaceae and Part II the Salicaceae to Urticaceae inclusive. The text is printed in carefully selected type which differentiates admirably the subject matter on the page. The descriptions, while full and accurate, are not overtechnical; the bibliography and synonomy are presented in sufficient detail to give a ready understanding without being cumbersome, and particular emphasis is given to the geographical distribution of species and varieties. Several well reproduced photographs and numerous original figures materially supplement the text. New species are described in Cupressus and Quercus. The publication happily combines scientific accuracy

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[5] Review in Bot. Gazette **31**:275. 1901.

[6] *Ibid.* **37**:151. 1904.

[7] *Ibid.* **41**:450. 1909.

[8] Giglio-Tos, Ermanno, Les problèmes de la vie. IVe partie: La variation et l'origine des espèces. 8vo. pp. vii+222. Cagliari: The author, at the University. 1910. *fr.* 8.

[9] Jepson, W. L., A flora of California. Royal 8vo. Part I, pp. 33–64. *figs. 13;* Part II, pp. 337–368. *figs. 5.* San Francisco: Cunningham, Curtiss, and Welch. 1909.

with simplicity of description, and its appearance is most gratifying to those interested in the Pacific coast flora. It is earnestly hoped that the work may continue to completion.—J. M. GREENMAN.

## NOTES FOR STUDENTS

**Current taxonomic literature.**—J. C. ARTHUR (Mycologia 1:225–256. 1909) under the title "Cultures in Uredineae in 1908" has published new species in Puccinia and Gymnosporangium; this article is the ninth in a series of reports on the culture of plant rusts.—O. BECCARI (Leafl. Philipp. Bot. 2:639–650. 1909) in an article entitled "New or little known Philippine palms" describes four new species.—V. F. BROTHERUS (*ibid.* 651–658) has published 11 new species of mosses from the Philippine Islands.—C. BERNARD (Dept. Agr. Ind. Néerland. pp. 1–94. *pls. 1–6.* 1909) in a paper entitled "Sur quelques algues unicellulaires d'eau douce récoltées le Domaine Malais" has described several new species and varieties of unicellular algae and proposes a new genus (*Spinoclosterium*).—R. C. BENEDICT (Bull. Torr. Bot. Club **36**:463–476. 1909) presents a provisional revision of the genus Ceratopteris and includes one new species (*C. deltoidea*) from Jamaica.—B. T. BUTLER (*ibid.* 421–440) gives a synopsis of the west American birches in which 17 species are recognized, 7 being indicated as new; a key precedes the characterization of species.—L. CLARK (*ibid.* 299–307. *pl. 20*) under the title "Some noteworthy Hepaticae from the state of Washington" includes a new species of Jungermannia and a new variety of *Scapania paludosa* C. Müll. Frib.—W. W. EGGLESTON (*ibid.* 501–514) in an article entitled "The Crataegi of Mexico and Central America" describes 4 new species and 2 new varieties.—H. D. HOUSE (*ibid.* 595–603) in continuation of his studies in the Convolvulaceae gives a synoptical revision of the genus Quamoclit in which 8 species are recognized, one being new to science.—R. H. HOWE, Jr. (*ibid.* 309–326. *pls. 21–23*) presents an interesting article dealing with the genus Usnea as represented in New England. The text is supplemented by maps showing the distribution of species and forms occurring in that section.—E. A. MCGREGOR (*ibid.* 605–609) describes and illustrates two new spermatophytes from California.—K. K. MACKENZIE (*ibid.* 477–484) in continuation of his studies in the genus Carex has described 8 new North American species.—E. L. MORRIS (*ibid.* 515–530) in a third paper on "North American Plantaginaceae" treats in detail several technical species and proposes two new specific names.—P. A. RYDBERG (*ibid.* 531–541) under "Studies on the Rocky Mountain flora XIX" describes several new species of Gramineae.—R. E. STONE (*ibid.* 549–552) describes a new species of Puccinia which was found growing on *Rynchospora corniculata* (Lam.) Gray at Auburn, Alabama.—C. H. PECK (*ibid.* 329–339) describes 22 new species of fungi from different parts of the United States; the same author (N. Y. State Mus. Bull. 131. pp. 18–58. 1909) describes new species of American fungi, several being illustrated.—Q. BORGE (Arkiv för Botanik **8**: no. 13. pp. 29. *pl. 1.* 1909) under the title "Nordamerikanische Süsswasseralgen" describes and illus-